



## Brooks physicist applies science to sport of powerlifting

by Rudy Purificato, 311 HSW

**BROOKS AFB, Texas** — He's probably the only American physicist who can dead lift 450 pounds. In fact, Dr. John Taboada is perhaps the only retirement-age scientist whose idea of a senior discount is getting 10 percent off a set of barbells.

At an age when many people have become 'dead weight' as couch potatoes, this 57-year-old Air Force Research Laboratory optical researcher has applied scientific principles to mastering powerlifting.

"I think I now know what helps lifters execute the mechanics of a dead lift. The bar bends upward for a few milliseconds. The energy applied goes into the bar which is delivered to the weight," Taboada explains. While powerlifting physics is simple, Taboada learned the hard way how difficult the sport is to master.

Prior to 1992, his only previous experience 'throwing his weight around' was as a Fox Tech High School athlete. "I played varsity basketball and tennis, but back then there was no weight training," he said. Following graduation in 1962, he abandoned sports for a career as an atomic and molecular physicist, earning a Texas A&M University doctoral degree.

A Brooks scientist since 1968, Taboada wasn't active in sports here until he hired an electrical engineer. "William Robinson was the state champ in powerlifting. He introduced and coached me in the sport," he said.

Powerlifting fulfilled a long-dormant need. "Since my youth, I've been a competitive sports individual. However, in later years I didn't have time for team sports." Powerlifting, however, became a natural progression for Taboada.

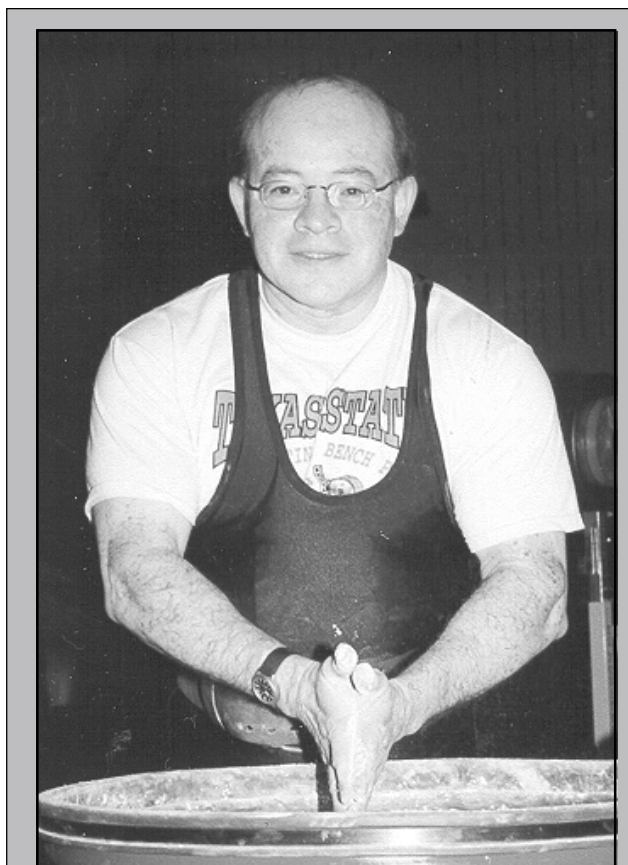
"At first, powerlifting didn't seem to me to be a very exciting sport. I quickly realized there's quite a lot of excitement in pushing the body's capacity to lift weight without hurting yourself," he admits.

Powerlifting's three events of squat, bench press and dead lifting weight initially appeared to be a daunting challenge for the 5' 7," 140-pound Taboada.

"If you stop to assess the actual weight you're lifting, it's frightening. It does seem that muscles and bones are not going to support the weight. There's definitely a fear factor."

Taboada learned his first important lesson: intense concentration is required. "You have to mentally eliminate distractions while commanding your muscles to respond to the challenge. It's an explosive process; there's tremendous exertion applied to the weight in just a few seconds."

Before Taboada tackled his first weight, he had to condition his body. "It's a matter of systematically training your body to incrementally increasing levels. At first, I had to overcome the challenge of pain and exhaustion. It takes quite a bit of mental stamina to stick with the training program."



**TRUE GRIT** - Brooks scientist Dr. John Taboada uses applied scientific principles to master powerlifting. Taboada will participate in the national U.S.A. Powerlifting meet, Killeen, Texas, in March.

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As a rookie powerlifter, Taboada could only squat lift 60 percent of his body weight and bench press and dead lift about 100 pounds. Within three years, he was lifting twice his body weight. He accomplished this with a regimen of twice weekly one-and-a-half hour fitness center workouts.

“I had to develop various muscles groups. However, I did injure myself,” he admits when describing how he deluded himself into believing he could lift 400 pounds. “I herniated a disk in my back. I was almost paralyzed. My doctors told me my weightlifting days were over.”

His physicians did not, however, take into account Taboada’s perseverance. “I was determined to return to powerlifting.” He conducted his own prescribed physical therapy that featured isometrics and no painkilling medications.

“The pain was almost unbearable. I told my doctors what I was doing. They feared I was going to become a paraplegic,” he said. His ‘true grit’ paid off after about two years of recovery therapy. In 1995 Taboada entered his first state meet.

“I thought I was ready,” he recalls. His scientific nature had eclipsed any reason a man in his early 50s may have developed in life. “I’m an experimentalist by occupation. I experimented on myself to see if at my age I could enhance muscle mass.”

Taboada succeeded in developing muscle mass, increasing his body weight from 140 to 189 pounds over a five-year period. Nonetheless, being stronger didn’t fully prepare him for the reality of competition.

“My first meet was a disaster. I didn’t realize the criteria needed for a successful lift until I saw it demonstrated.”

He also made a tactical mistake in attempting too high a lift in his first event. “I had squat lifted 310 pounds in training, but those lifts weren’t ‘official.’ Once you declare an opening weight, you can’t go down in weight on the next attempt.” What resulted was a meet-ending hamstring pull on Toboada’s first attempt.

“I learned several lessons, including the importance of stretching.” He also learned proper movements associated with each event.

By 1999, Toboada had placed first in his weight and age category. Most important to Taboada was learning proper balance and leverage needed in each event. At the state meet in December, Taboada achieved a personal best 450-pound dead lift, and equaled his best lifts with a 340-pound squat and 205-pound bench press. In doing so, he qualified for the national U.S.A. Powerlifting meet in March in Killeen, Texas.

“I ‘m stronger now than I’ve ever been in my life,” said Taboada who may be Brooks’ version of the former diminutive Olympic weightlifter nicknamed ‘Pocket Hercules.’ @